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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,849	01/16/2004	Gennadi Finkelshtain	P24712	5103

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RESTON, VA 20191

EXAMINER

COSTALES, SHRUTI S

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/757,849

Applicant(s)

FINKELSHTAIN ET AL.

Examiner

Shruti S. Costales

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/17/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement submitted on August 17, 2004 was filed in compliance with the provisions of 37 CFR § 1.97. Accordingly, the information disclosure statement filed by the applicant has been considered by the Examiner.

### ***Specification***

2. The abstract of the disclosure is objected to because the applicant makes improper use of legal phraseology, such as "comprises" and "comprising". Further, the statement "This abstract is neither intended to define the invention disclosed in this specification nor intended to limit the scope of the invention in any way", should not appear in the abstract as the abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. See MPEP § 608.01(b).

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

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Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-38, 41, 43, 46, and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More particularly, claims 1, 25-28, 30, and 41 are indefinite, wherein claim 1 for example recites the limitation "2 % of the at least one metal hydride", and it is not clear to one of ordinary skill in the art if the 2% is represented by weight or volume %. Claims 2-24, 29, 31-38, 43, 46, and 47 are

rejected under 35 U.S.C. 112, second paragraph, as being dependent from rejected base claims.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amendola (U.S. Patent Number 6,497,973).

Amendola discloses an electrochemical storage medium in an electrochemical cell having a carrier mixed with a reduced boron-containing compound such as borohydride, wherein the carrier is an aqueous or non-aqueous solution including alcohols, glycols, etc. (Col. 1, lines 34-64; see also Col. 5, lines 38-52), wherein the aqueous carrier intrinsically includes water which is well-known polar solvent. The carrier is present in an amount such that the borohydride is a pumpable slush at about 80 to 90% by weight (Col. 18, lines 31-41), therein intrinsically implying 10 to 20% by weight of carrier broadly corresponding to less than about 15% by volume of solvent as presently claimed. Amendola also discloses that borohydride ions are stabilized by hydroxide ions, such as sodium hydroxide (Col. 7, lines 29-63). Anodic oxidation of the borohydride is further disclosed (Col. 2, lines 21-57). Sodium borohydride and other borohydride salts of lithium and ammonium are also disclosed (Col. 7, lines 66-67). Further, eight moles of hydroxide ions per liter are disclosed in the discussion of FIG. 5 in Cols. 13-14. Processes for preparing the metal hydride are disclosed with respect to FIGS. 1-7. The battery, i.e. electrochemical cell, may include two units or chambers (Col. 3, lines 5-11; see also FIGS. 1-7, especially FIG. 6 described in Cols. 14-18), wherein the OH<sup>-</sup> solution is in a separate chamber. No plasticizers, detergents, antifreeze, and stabilizers are disclosed by Amendola as being a part of the contents of electrochemical cell.

The difference between Amendola and the presently claimed invention is the requirement that after storing for four weeks at about 25° C not more than about 2% of one of the metal hydrides decomposes.

Although Amendola does not explicitly disclose a certain amount of decompositions at about 25° C of one of the metal hydrides, such a decomposition rate would be intrinsic to Amendola's composition because Amendola's electrochemical cell has the same contents as those presently claimed, a carrier mixed with a reduced boron-containing compound such as borohydride, wherein the carrier is an aqueous or non-aqueous solution including alcohols, glycols, etc. (Col. 1, lines 34-64; see also Col. 5, lines 38-52), thereby obtaining the invention as set forth in the presently recited claims.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shruti S. Costales whose telephone number is (571) 272-8389. The examiner can normally be reached on Monday - Friday, 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

SSC  
Shruti S. Costales  
September 23, 2005

*Vasu Jagannathan*  
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